Adept Status Code Summary for Embedded Products

Common Two-digit Status Codes

Status Code	V+ Error Message	V+ Error Code	Explanation	User Action
OK	None	N/A	STATUS message: High Power OFF.	None
ON	None	N/A	STATUS message: High Power ON.	None
A#	*Motor amplifier fault*	-1018	A power amplifier fault is indicated on axis (#).	Check user motor power connections for shorts or opens. Turn high power back on and restart the program. If the error persists, contact Adept Customer Service.
B#	None	N/A	IO Blox communications error with IO Blox (#).	Check user IO Blox connections for shorts or opens. Check IO Blox address switches for proper configuration. Cycle power to the control system. If the error persists, contact Adept Customer Service.
AC	*RSC Power Failure*	-670	A loss of AC power was detected.	Check user AC power connections for shorts or opens. Turn high power back on and restart the program. If the error persists, contact Adept Customer Service.

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Status Code	V+ Error Message	V+ Error Code	Explanation	User Action
D#	*Duty-cycle exceeded* Mtr n	-1021	The indicated motor (#) has been driven hard for too long a period of time. The servo system has disabled power to protect the robot hardware.	Turn high power back on. Reduce the speed and/or acceleration for the motion that was in progress or for motions that preceded that motion; and repeat the motion that failed.
E#	*Encoder Fault*	-1025	The servo system has detected an encoder fault.	User actions vary by product. Please reference individual robot manuals for appropriate actions.
FM	None	N/A	Firmware version mismatch.	Contact Adept Customer Service.
FW	*1394 communications timeout*	-927	The IEEE 1394 communications system has failed to initialize or has lost communications with the SmartController.	This will occur normally if the SmartController is powered down separately from the robot systems. If it occurs unexpectedly, check the connections and integrity of the 1394 cabling.
I#	None	N/A	Servo initialization stages. These steps normally sequence (I0, I1, …) on the display during normal system boot.	If any initialization code persists (greater than 30 seconds), it may indicate servo initialization has failed. Contact Adept Customer Service.
M#	*Motor stalled" Mtr n	-1007	A motor stall occurs when the maximum allowed torque for a given motor was applied for longer than the defined timeout period. This typically occurs when an obstacle is encountered.	Check for obstacles and free movement of all joints. Turn high power back on and repeat the motion that failed.

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Status Code	V+ Error Message	V+ Error Code	Explanation	User Action
NV	None	N/A	Communication to a non-volatile memory device failed.	On MB-10 units, clean the contacts to the signature card mounted on the T-bracket and check for proper mounting of the MB-10. If the error persists, contact Adept Customer Service.
PR	None	N/A	A servo task has overrun its allotted execution window.	If the problem persists, contact Adept Customer Service .
SW	None	N/A	Timeout of the software watchdog timer. On some products, it is normal for this to occur momentarily during a servo reset.	If the problem persists, contact Adept Customer Service .
V#	*Hard envelope error* Mtr n	-1027	The indicated motor was not tracking the commanded position with sufficient accuracy as set by SPEC or the Adept ACE Controller Editor.	Turn on high power and try to perform the motion at a slower speed. Make sure that nothing is obstructing the robot's motion. If the error recurs, contact Adept Customer Service.

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Platform-Dependent Two-digit Status Codes

					Supported Platforms						
Status Code	**V+ Error Message**	**V+ Error Code**	**Explanation**	**User Action**	**Adept Six (sMAI)**	**Adept Viper (sDAI)**	**Adept One (sEJI)**	**Cobra s600/s800 i600/i800**	**MB-40R MB-60R**	**MB-40L MB-60L**	**MB-10**
24	*RSC power failure*	-670	The 24 VDC input voltage is out of bounds (too high or low).	Check connections and voltage level from the user-supplied 24 VDC power supply.				•	•	•	•
BK	*Manual brake release*	-639	The manual brake release button was pressed while high power was enabled.	Ensure the brake button is released. The message will clear upon re-enabling power.	•	•		•	•	•	•
ES	*E-STOP detected by robot*	-643	An E-STOP condition has been detected by the robot.	This is a normal response to many E-STOP conditions. Remove the source of the E-STOP and re-enable high power.	•	•	•	•	•	•	
AR	*No air pressure *	-607	V+ detected that the air supply to the robot brakes and hand has failed.	Restore the air pressure,turn high power back on, and resume program execution. If the error persists, contact Adept Customer Service.			•				

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F1	*E-STOP detected by robot*	-643	The end-of-arm Break-away sensor has tripped (open circuit). Reporting of this error can be enabled / disabled via a SPEC option or the Adept ACE Controller Editor.	Close the breakaway circuit and re-enable high power.				•			
F2	*E-STOP detected by robot*	-643	The end-of-arm "SHOCK" sensor has tripped (open circuit). Reporting of this error can be enabled / disabled via a SPEC option or the Adept ACE Controller Editor. The shock sensor is an option on the six-axis robots.	This is an expected response to impact with an obstacle on robots with the shock sensor option installed. Move the robot away from the obstacle and re-enable high power.	•	•					
F3	*E-STOP detected by robot*	-643	The "LIMIT" sensor has tripped. Reporting of this error can be enabled / disabled via a SPEC option or the Adept ACE Controller Editor. A single common sensor is used to report a limit condition on J1 & J2/J3 if the option is installed.	This is an expected response when the joint limit switch has been activated. Move the robot away from the limit position and re-enable high power.	•	•					

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hV	*RSC power failure*	-670	The high-voltage DC bus for the amplifiers is out of bounds (too high or low).	This may occur when AC power is unexpectedly removed. Check AC connections and re-enable high power. If the error persists, contact Adept Customer Service.				•	•	•	•
h0	*Robot overheated*	-606	The MB-10 internal regenerative dump resistor has reached its temperature limit.	Allow the amplifier to cool for a short time, re-enable power and retry the motion. It may be necessary to slow the motion or insert pauses to reduce the regenerative energy.							•
h0	*Robot overheated*	-606	The temperature sensor on the embedded processor board has reached its temperature limit.	Check for excessive ambient temperature, inadequate ventilation, and proper function of any cooling fans.				•	•	•	

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h#	"Robot over-heated"	-606	Amplifier over-temperature occurred on Joint (#). Note: MB-10 sys-tems only report 'h1'.	Check for excessive ambient temperature, inadequate vent-ilation, and proper function of any cool-ing fans. It may be necessary to slow the motion or insert pauses to reduce over-all heating.				•	•	•	•
H#	*Motor over-heating* Mtr n	-1016	The motor encoder tem-perature sensor indicates an overtemperature.	Reduce the speed, acceleration and/or deceleration of the robot motions, or introduce delays in the application cycle to give the motor an opportunity to cool.				•	•	•	•
HR	*Motor over-heating* Mtr n	-1016	The temperature sensor on the RSC card in the base of the robot indic-ates an overtemperature.	Reduce the speed, acceleration and/or deceleration of the robot motions, or introduce delays in the application cycle to give the motor an opportunity to cool.			•				

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OT	*Positive over-travel* Mtr n	-1033	The hardware overtravel sensor for the indicated motor has tripped and robot power has been disabled.	Manually move the robot back into range and re-enable power. Use the SPEC utility to adjust the soft limits for the robot so they are inside the hard limits.			•				
P0	*Power system failure* Code 0	-1115	The dual-channel brake circuit has reported a cyclic check error.	Contact Adept Customer Service.	•		•	•	•	•	
P1	*Power system failure* Code 1	-1115	The power system has unexpectedly turned off power.	On PA-4 chassis, further information may be indicated on the PA-4 status lights. Refer to Adept PA-4 Power Chassis User's Guide for details. Contact Adept Customer Service if the error persists.	•	•	•	•	•	•	
P2	*Power system failure* Code 2	-1115	The high-voltage DC bus to the regenerative energy dump circuit has experienced an overvoltage.	Contact Adept Customer Service.	•	•					
P3	*Power system failure* Code 3	-1115	The regenerative energy dump circuit has exceeded its max short term dump rating.	Contact Adept Customer Service.	•	•					

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P4	*Power system failure* Code 4	-1115	The high-voltage DC bus did not discharge its voltage when expected. (Note: This error is only relevant to legacy Cobra AIB systems.)	Contact Adept Customer Service.				•			
P5	*Power system failure* Code 5	-1115	An inrush error was detected by the power sequencer. This means the high-voltage DC bus failed to rise at the expected rate when power was enabled.	This can occur if AC power is abruptly removed during the high power enable sequence. If it occurs unexpectedly, contact Adept Customer Service.				•	•	•	•
P6	*Power system failure* Code 6	-1115	The MAI-2 / sMAI / sDAI regenerative energy circuit temperature sensor indicates an overtemp condition.	Contact Adept Customer Service.	•	•					
RC	*RSC communications failure*	-651	There is a failure to communicate with the Robot Signature Card (RSC).	Contact Adept Customer Service.		•	•				

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R0	*RSC hardware failure*	-669	The Robot Signature Card (RSC) has reported an internal failure. Because RSC failures almost always cause the RSC to stop communicating altogether (rendering it incapable of reporting the failure), this error message may be due to some other cause, such as electrical noise at the RSC or within or around the arm signal cable.	If the problem persists, contact Adept Customer Service.			•				
R1	*RSC power failure*	-670	The Robot Signature Card (RSC) has reported that its power is failing. Because a power failure on the RSC typically causes it to stop communicating (rendering it incapable of reporting the failure), this error message may be due to some other cause, such as electrical noise or an intermittent connection	If the problem persists, contact Adept Customer Service.			•				

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S0	*Safety System Fault* Code 0	-1109	The robot hardware did not detect that the front-panel high-power button was pressed before the servo system attempted to enable power.	Contact Adept Customer Service.	•			•			
S1	*Safety System Fault* Code 1	-1109	The SmartController has signaled a power-off condition to the robot through the HIPWR_DIS line on the XSYS interface. This fault indication typically accompanies other fault conditions that cause "fatal error" on the SmartController (such as a loss of IEEE-1394 communication).	Check for other messages on the SmartController that may indicate a fatal error. If the error source can be eliminated, re-enable power.	•	•	•	•	•	•	
S2	*Safety System Fault* Code 2	-1109	The safety system experienced a failure on channel 1 during the cyclic check of the dual-channel power system. This may indicate a stuck relay contact or other hardware failure.	If the problem persists, contact Adept Customer Service.	•	•	•	•	•	•	

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S3	*Safety System Fault* Code 3	-1109	The safety system experienced a failure on channel 2 during the cyclic check of the dual-channel power system. This may indicate a stuck relay contact or other hardware failure.	If the problem persists, contact Adept Customer Service.	•	•	•	•	•	•	
S4	*Safety System Fault* Code 4	-1109	The internal E-STOP delay timer has timed out and caused power to be turned off. Under normal circumstances, the software initiates a shutdown before the time out, which prevents this message.	If the problem persists, contact Adept Customer Service.	•	•	•	•	•	•	•
S5	*Safety System Fault* Code 5	-1109	While in manual mode, the power system was not properly unlocked by software during a power sequence.	Contact Adept Customer Service.	•		•	•			

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S6	*Safety System Fault* Code 6	-1109	The CAT-3 hardware safety system detected an encoder OVERSPEED condition, and power has been turned off. This circuitry is on certain robots that have the CAT-3 teach mode option installed. It is active only when in manual mode.	This fault is triggered on purpose during specific commissioning tests for the CAT-3 system. If the fault occurs during normal operation, contact Adept Customer Service.	•			•			
S7	*Safety System Fault* Code 7	-1109	The CAT-3 hardware safety system detected an accelerometer error on channel 1 or 2. This circuitry is on certain robots that have the CAT-3 teach mode option installed. It is active only when in manual mode. The robot (joint 1 or 2) is moving or accelerating too fast, which indicates there is a fault with the accelerometer system or a failure of the accelerometer's self-test function.	If the error occurred while moving the robot, try moving the robot less quickly, or with a lower rate of acceleration or deceleration. For faults with cables or sensors, consult your robot documentation or contact Adept Customer Service.			•				

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S8	*Safety System Fault* Code 8	-1109	The CAT-3 hardware safety system detected an error. This circuitry is on certain robots that have the CAT-3 teach mode option installed. It is active only when in manual mode. This fault occurs in response to multiple sources: 1) The velocity restrict check failed for Joint 3 or 4. The robot (joint 3 or 4) is moving or accelerating too fast, which indicates there is a fault with the voltage-restrict sensor or a failure of the voltage restrict sensor's self-test function. 2) The dual-channel sensor circuits disagree, or multiple sensors are simultaneously indicating a fault.	If the error occurred while moving the robot, try moving the robot less quickly, or with a lower rate of acceleration or deceleration. For faults with cables or sensors, consult your robot documentation or contact Adept Customer Service.			•				

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S9	*Safety System Fault* Code 9	-1109	A watchdog circuit that cross checks the clocks for the dual-channel safety system is reporting an error.	Contact Adept Customer Service.	•	•	•	•	•	•	
T0	*Safety System Fault* Code 10	-1109	An error was detected during a software self test of a secondary safety and monitoring circuit (SRV_DIRECT / SRV_ STAT).	Contact Adept Customer Service.	•		•	•			
T1	*Safety System Fault* Code 11	-1109	A failure (open circuit) of the arm-mounted High Power lamp has been detected. Typically, this indicates a defective lamp, which is considered a safety hazard. High Power cannot be enabled until the lamp is replaced. The arm-mounted High Power lamp is only available on the AdeptSix 600 robot.	Replace the bulb in the arm-mounted High Power lamp.	•						
TR	*Safety System Not Commissioned*	-648	The Teach Restrict feature is not commissioned, and an attempt was made to enable high power in Manual mode.	Use Adept ACE to recommission the robot or use the robot in Automatic mode only.				•	•		

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			This error code only applies to robots equipped with an eAIB, eMB-60R or eMB-40R.	If the problem persists, Contact Adept Customer Service.							
SE	*Safety System Not Commissioned*	-648	The E-STOP delay feature is not commissioned, and an attempt was made to enable high power (in either automatic or manual mode). This error code only applies to robots equipped with an eAIB, eMB-60R or eMB-40R.	Use Adept ACE to recommission the robot. If the problem persists, Contact Adept Customer Service.				•	•		
BA	Battery low warning	N/A	The battery used to backup the encoder position has low voltage. The position is not yet lost, but the battery needs to be replaced soon.	Replace battery as described in the corresponding robot manual	•	•		•	•	•	•

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